

WE CLAIM:

1. A method of controlling a multi-layer transport network, the method comprising steps of:

determining whether a connection supporting a performance requirement of a call can be established within a first layer of the network;

and

if the connection cannot be established, defining an association between the call and a second call instantiated within a respective second layer of the network.
2. A method of establishing a call across a multi-layer transport network, the method comprising steps of:

instantiating a first call controller within a respective first layer of the network;

determining whether a respective first connection for the call can be supported by the first layer;

if the connection can be supported by the first layer, setting up the call using connections in the first layer of the network; and

otherwise:

instantiating a second call controller in a respective second layer of the network; and

defining an association between the first and second call controllers.
3. A method as claimed in claim 2, wherein the second layer is a server layer to the first layer.

4. A method as claimed in claim 2, wherein the step of setting up the call through the first layer of the network comprises a step of sending a call request message through a control link adapted to convey call requests for the first layer of the network.
5. A method as claimed in claim 4, further comprising steps of:
 - receiving the call request message through the control link;
 - determining whether the call request message contains an encapsulated call request message for a third layer of the network; and
 - if an encapsulated call request message is found:
 - extracting the encapsulated call request message;
 - and
 - passing the extracted call request message to the third layer.
6. A method as claimed in claim 5, wherein the third layer is a client layer to the first layer.
7. A method as claimed in claim 2, wherein the step of instantiating a second call controller in a respective server layer of the network comprises a step of passing a call request message to a control plane of the server layer, the control plane being responsive to the call request message to instantiate the second call controller.
8. A method as claimed in claim 7, wherein the call request message comprises at least information

identifying the first call, and wherein the step of defining an association between the first and second call controllers comprises a step of passing the call request message to the second call controller.

9. A method of managing a call within a multi-layer transport network, the method comprising steps of:
determining whether a connection for the call can be supported by a first layer of the network;
if the connection can be supported by the first layer, setting up an association between a call management object of the call and a respective connection management object in the first layer;
and
otherwise:
defining an association between the call management object and a second call management object instantiated within a respective second layer of the network.
10. A method as claimed in claim 9, wherein the second layer is a server layer to the first layer.
11. A method as claimed in claim 9, wherein the step of defining an association between the call management object and the second call management object comprises a step of passing a call request message to a control plane of the second layer, the call request message including at least information identifying the call management object.
12. A method as claimed in claim 9, wherein the step of setting up the connection through the first layer

comprises a step of sending a call request message through a control link adapted to convey call requests for the first layer of the network.

13. A method as claimed in claim 12, further comprising steps of:

receiving the call request message through the control link;

determining whether the call request message contains an encapsulated call request message for a third layer of the network; and

if an encapsulated call request message is found, defining an association between the call management object and a respective third call management object instantiated within the third layer of the network.

14. A method as claimed in claim 13, wherein the third layer is a client layer to the first layer.

15. A method as claimed in claim 13, wherein the step of defining an association between the call management object and the third call management object comprises steps of:

extracting the encapsulated call request message; and passing the extracted call request message to a control plane of the third layer.